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Textiles — Commercial laundering procedure for textile fabrics prior to flammability testing

*Textiles — Blanchissage commercial des étoffes textiles en vue des
essais d'inflammabilité*



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Foreword

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International Standard ISO 10528 was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 2, *Cleansing, finishing and water resistance tests*.

Annex A of this International Standard is for information only.

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Introduction

The methods specified in this International Standard simulate the effect of commercial laundry procedures using soft water. The washing machines specified are all horizontal rotating drum types with reversing action which are already in laboratory use but which differ considerably in cage volume, frequency of rotation and the methods of controlling liquor level and temperature.

Alternative procedures for assessing the effect of domestic washing using hard water on the flammability of textile fabrics are given in ISO 12138:—, *Textiles — Domestic laundering procedure for textile fabrics prior to flammability testing* (to be published).

The methods specify the use of liquor/load ratios of 5:1 for washing and 9:1 for rinsing, which are at the low end of the ranges used in normal laundry practice. For practical reasons they are determined with no fabric present. Extra water is added during the washing procedure but the amounts will vary according to the type of machine used and cannot be controlled.

The specified wash temperature of $(75 \pm 3) ^\circ\text{C}$ has been shown to be adequate to ensure sterilization of hospital items, while the use of higher temperatures does not produce any significant improvement in the cleansing effect. Some items may not be suitable for washing at this temperature, because of shrinkage or other factors, and an alternative procedure with a wash temperature of $(40 \pm 3) ^\circ\text{C}$ is provided for such fabrics.

Different washing machines vary in their mechanical action and in the time taken to heat to the washing temperature. It is also difficult to control the water inlet temperature. A total period of 30 min agitation during heating and washing is specified for the standard wash. This is longer than would be used in practice but it helps to eliminate the uncontrollable variations between different types of installation and ensures that the test is more severe than actual use. In order to eliminate variations in the period taken to heat to temperature, agitation is not started until a temperature of $(40 \pm 3) ^\circ\text{C}$ is reached. This allows the water input temperature to vary without affecting the period of agitation.

In interlaboratory trials carried out by ISO/TC 38/SC 2/WG 6 in 1989, this procedure was found capable of distinguishing between flame retardant finishes with good and poor stability to washing. However, it was noted that the flammability test used to assess the performance of the fabrics (specified in ISO 6941:1984, *Textile fabrics — Burning behaviour — Measurement of flame spread properties of vertically oriented specimens*) gave more variability than this washing procedure when the two methods were used in sequence.